

CMPD2005S  
CMPD2005SG\*

**SURFACE MOUNT  
DUAL, IN SERIES  
HIGH VOLTAGE  
SILICON SWITCHING DIODES**



**SOT-23 CASE**

\* Device is **Halogen Free** by design



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPD2005S and CMPD2005SG each contain two (2) High Voltage Silicon Switching Diodes, manufactured by the epitaxial planar process, epoxy molded in a SOT-23 surface mount package, designed for applications requiring high voltage capability.

**MARKING CODES:**

**CMPD2005S: DB5**  
**CMPD2005SG\*: 5SG**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Continuous Reverse Voltage  
Peak Repetitive Reverse Voltage  
Average Forward Current  
Continuous Forward Current  
Peak Repetitive Forward Current  
Peak Forward Surge Current,  $t_p=1.0\mu\text{s}$   
Peak Forward Surge Current,  $t_p=1.0\text{s}$   
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

$V_R$   
 $V_{RRM}$   
 $I_O$   
 $I_F$   
 $I_{FRM}$   
 $I_{FSM}$   
 $I_{FSM}$   
 $P_D$   
 $T_J, T_{stg}$   
 $\theta_{JA}$

300  
350  
200  
225  
625  
4.0  
1.0  
350  
-65 to +150  
357

**UNITS**

V  
V  
mA  
mA  
mA  
A  
A  
mW  
 $^\circ\text{C}$   
 $^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS PER DIODE:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

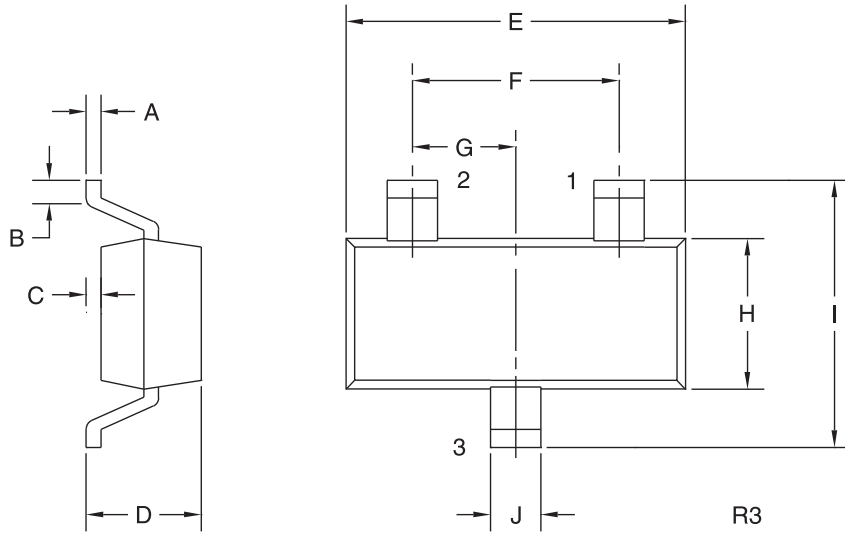
| SYMBOL   | TEST CONDITIONS  | MIN | MAX  | UNITS         |
|----------|--|-----|------|---------------|
| $I_R$    | $V_R=280\text{V}$  |     | 100  | nA            |
| $I_R$    | $V_R=280\text{V}, T_A=150^\circ\text{C}$                           |     | 100  | $\mu\text{A}$ |
| $BV_R$   | $I_R=100\mu\text{A}$   | 350 |      | V             |
| $V_F$    | $I_F=20\text{mA}$  |     | 0.87 | V             |
| $V_F$    | $I_F=100\text{mA}$   |     | 1.0  | V             |
| $V_F$    | $I_F=200\text{mA}$   |     | 1.25 | V             |
| $C_T$    | $V_R=0, f=1.0\text{MHz}$   |     | 5.0  | pF            |
| $t_{rr}$ | $I_R=I_F=30\text{mA}, \text{Rec. to } 3.0\text{mA}, R_L=100\Omega$ |     | 50   | ns            |

CMPD2005S  
CMPD2005SG\*

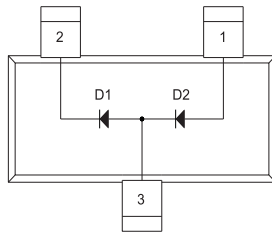
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SOT-23 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



LEAD CODE:

- 1) Anode D2
- 2) Cathode D1
- 3) Anode D1, Cathode D2

MARKING CODES:

CMPD2005S: DB5  
CMPD2005SG\*: 5SG

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DIMENSIONS

| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.003  | 0.007 | 0.08        | 0.18 |
| B      | 0.006  | -     | 0.15        | -    |
| C      | -      | 0.005 | -           | 0.13 |
| D      | 0.035  | 0.043 | 0.89        | 1.09 |
| E      | 0.110  | 0.120 | 2.80        | 3.05 |
| F      | 0.075  |       | 1.90        |      |
| G      | 0.037  |       | 0.95        |      |
| H      | 0.047  | 0.055 | 1.19        | 1.40 |
| I      | 0.083  | 0.098 | 2.10        | 2.49 |
| J      | 0.014  | 0.020 | 0.35        | 0.50 |

SOT-23 (REV: R3)

R3 (25-January 2010)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### CONTACT US

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